United States Marine Corps

Marine Corps Systems Command

Quantico, Virginia

TRANSPORTATION COORDINATORS' AUTOMATED INFORMATION FOR MOVEMENT SYSTEM II (TC-AIMS II)

ACAT IA

Life Cycle Phase II

Engineering and Manufacturing Development

TOTAL OWNERSHIP COST-REDUCTION PLAN

June 1999

Approval:

_____ Date: _____

Program Manager, Information Systems,
Marine Corps Systems Command

_____ Date: _____

Deputy Commander, Command, Control,
Communications, Computers and Intelligence
Marine Corps Systems Command

_____ Date: _____

Commander, Marine Corps Systems Command
United States Marine Corps

TOTAL OWNERSHIP COST-REDUCTION PLAN

TRANSPORTATION COORDINATORS' AUTOMATED INFORMATION FOR MOVEMENT SYSTEM II (TC-AIMS II)

Requirements

The Assistant Secretary of the Navy for Research, Development, and Acquisition ((ASN) (RDA)) memorandum of 5 May 1998 directs the IMPLEMENTATION OF TOTAL OWNERSHIP COST (TOC) BASELINES IN THE DEPARTMENT OF THE NAVY. It directs the formulation and implementation of formal TOC reduction efforts for all DoN programs regardless of Acquisition Category (ACAT) designation, program dollar value, or life cycle stage. Each TOC Reduction (TOC-R) Plan will include the following: (a) establishment of a cost baseline; (b) identification of cost drivers within the baseline; and (c) development of specific reduction initiatives and development of metrics, which measure progress towards achieving stated goals. The TOC-R Plans shall be submitted to the appropriate Milestone Decision Authority (MDA) for ACAT I/II programs by 31 December 1998 and for ACAT III/IV and Non-ACAT programs by 30 June 1999.

Program Background

TC-AIMS II is a Joint ACAT I(A) Automated Information System used for unit deployment planning and execution, traffic management, and movement control and coordination. TC-AIMS II is a Department of Defense (DoD) Corporate Information Management (CIM) Migration system that satisfies 1987, 1993, and 1995 Joint Chiefs of Staff (JCS) guidance for a joint, integrated, deployable, and modernized transportation system. TC-AIMS II supports the DoD mission areas of deployment, mobility, and sustainment. The Unit Move portion of TC-AIMS II is baselined from two Marine Air-Ground Task Force (MAGTF) Logistics Automated Information System (LOGAIS) applications, based on their success in the redeployment of Marine Corps forces from Southwest Asia and use during deployment and redeployment in Somalia and Haiti. TC-AIMS II also integrates the Traffic Management Office (TMO) baseline functionality from the Air Force's Cargo Movement Operations System (CMOS), which has been adopted for Marine Corps traffic management until TC-AIMS II is fielded.

TC-AIMS II will be fielded throughout the Marine Corps from the battalion/squadron to Marine Force (MARFOR) level, and to all base/station TMOs. The recommended functional Approved Acquisition Objective consists of 112 servers, 1477 clients, and 1400 bar-code scanners.

TC-AIMS II interfaces with Service ammo, supply, and personnel systems; load planning systems; mode clearance (for port operations and transportation booking), Time Phased Force Deployment Data (TPFDD) feeder systems, and commercial carriers. It uses Automatic Identification Technology (AIT) extensively to reduce manual data input and improve data quality. The AIT consists of bar code printers/scanners, Radio Frequency/Identification (RFID) tags, and "Smart" and Optical Character Memory cards.
Marine Corps responsibilities for the program include the following:

- Provide funding for hardware procurement, communications, and infrastructure to support the joint deployment and transportation mission.
- Provide funding for infrastructure-related fielding costs for Marine Corps sites in excess of the 17 sites to be paid for by the TC-AIMS II Joint Program Management Office (JPMO).
- Provide staffing (two Marine Corps personnel) to the Joint Program Office. The staffing requirement is for one O-4/ Civilian Equivalent Logistics Officer and one O-4/ Civilian Equivalent Transportation Officer.
- Perform duties for the program as the Joint Requirements Officer (JRO).
- Provide Marine Corps subject matter experts to the Joint Application Development conferences hosted by the JPMO.
- Provide funding to pay for jointly approved software enhancements.
- Provide funding for all Marine Corps-unique software enhancements after fielding of version 3.X.
- Provide funding to support the TC-AIMS II Help Desk and Software Support Activity (SSA) in accordance with the details specified in the US Army-US Marine Corps Memorandum of Understanding.
- Provide funding for JPMO-produced multimedia training materials.
- Provide funding for hardware and software upgrades not otherwise covered.

1. Major Historical Events

TC-AIMS II is a DoD directed program. In 1987, the Secretary of Defense issued a Joint Staff Memorandum (SM) 3-87, directing the introduction of programs to provide automated support for DoD transportation coordinators. Each Service developed its own system to comply with SM 3-87. However, Desert Shield/Storm highlighted two major deficiencies: the fragmentation of logistics information systems and the inability to integrate Joint planning data with Service-unique execution data.

In October 1993, the Secretary of Defense issued a memorandum containing guidance for a thorough vertical and horizontal integration of Defense Air Intelligence Squadrons (AIS). The memorandum ordered accelerated migration of existing parallel and/or stovepipe systems into single multi-purpose and multi-service AISs. The Office of the Secretary of Defense directed the Joint Transportation CIM Center (JTCC) to recommend the migration systems for the Defense Transportation System, to oversee development of requirements, and to monitor implementation of the transportation migration systems.

The JTCC evaluated all the systems developed as a result of SM 3-87. In March 1995, JTCC selected several legacy systems as "best of breed" to serve as candidate migration systems in pursuit of developing TC-AIMS II. In March, the Office of the Secretary of Defense approved

JTCC's recommendations to migrate selected portions of Unit Move and Installation Transportation Office (ITO) /TMO functionality of the identified legacy systems into TC-AIMS II.

In November 1998, the Deputy Under Secretary of Defense designated the Department of the Army as the lead agency for the program. Acquisition, funding, and management support is provided by the Program Executive Office Standard Army Management Information Systems (STAMIS).

The Joint Requirements Oversite Committee (JROC) approved the Joint Operational Requirements Document on 25 March 1999. Signature authority was granted to the Army Deputy Chief of Staff Logistics, and final approval is pending minor changes to two Key Performance Parameters (KPPs). The TC-AIMS II Version 3.01, delivered from GTE on 24 March to the JPMO, is currently undergoing combined development testing and is scheduled for Government Software Qualification Test beginning mid-April 1999.

The program was rebaselined in October 1998, adopting an incremental development and delivery strategy over three major releases between fiscal year (FY)00 and FY02. There was a General Officer Steering Group (GOSG) chaired by the J4D United States Transportation Command on 9 April 1998 to discuss future direction of the program and to address current development cost and schedule risks. The Marine Corps Systems Command (MARCORSYSCOM) 301216Z MAR 98 proposes a risk mitigation approach to the Joint Configuration Management Board (CMB) regarding the program direction.

2. Milestones

The TC-AIMS II milestone schedule as of 30 April 1999 is:

DATES	EVENTS
3rd Qtr FY99 (10 June 99)	Milestone (MS) 0/I/II
2nd Qtr FY00 (February 00)	Initial Operational Test and Evaluation (IOT&E)
1st Qtr FY00 (April 00)	MS III Decision
3rd Qtr FY00 (May 00)	Initial Operational Capability (IOC)
4th Qtr FY02 (September 02)	Full Operational Capability (FOC)

3. Acquisition Strategy

a. The JPMO will leverage the TC-AIMS II software development to mitigate risk and address cost and schedule parameters. TC-AIMS II will use Marine Corps Common Hardware Suite (MCHS) equipment to reduce supportability costs. Cost/performance trade-offs will be conducted throughout the acquisition process.

b. If additional, unplanned requirements are identified, a cost/performance trade-off analysis will be conducted to determine the necessary program adjustments.

c. Program Manager (PM), Information Systems (IS) formally participates as the Marine Corps representative to the TC-AIMS II CMB.

d. PM IS hosts periodic Logistics Information Working Groups with the MARFORs, Headquarters Marine Corps (HQMC), and the supporting establishments.

e. In conjunction with MARCORSYSCOM, Program Analysis and Evaluation (PA&E) and Program Support (PS), program documentation will continue to be streamlined or combined wherever possible and allowed by statute and regulations.

f. Representatives from MARCORSYSCOM, HQMC, Marine Corps Combat Development Command (MCCDC) (Requirements Division), Marine Corps Logistics Bases, and Marine Corps Operational Test and Evaluation Activity have teamed to ensure that the Marine Corps participates in, receives, tests, accepts, and supports the joint TC-AIMS II Program.

4. Contract Awards

a. The TC-AIMS II program's business and contracting strategy is based on utilization of Commercial Off-the-Shelf /Government Off-the-Shelf/Non-Developmental Item and MCHS components. The TC-AIMS II will use acquisition streamlining, carefully tailored logistics and documentation requirements, and combined purchase orders with other MCHS and DoD customers.

b. There are no major new contracts planned for the TC-AIMS II program.

5. Fielding Dates

Organization	Date
MCSSS, EWTGPAC	2nd Qtr FY00
MARFORRES (Pilot)	3rd Qtr FY00
II MEF Pilot Site	3rd Qtr FY00
II MEF/East Coast Forces	4th Qtr FY00
I MEF/West Coast Forces	2nd Qtr FY01
III MEF/Okinawa/Hawaii	4th Qtr FY01
East Coast Bases and Stations	4th Qtr FY01
West Coast Bases and Stations	1st Qtr FY02
MARFORRES	2nd/3rd Qtr FY02

Cost Baseline

The cost estimates for this TOC-R Plan were derived from the Automated Cost Estimating Integrated Tools (ACEIT) Model contained in the TC-AIMS II Cost Analysis Requirements Description (CARD).

1. Remaining Costs. The remaining costs for TC-AIMS II through FY04 are estimated to be

$37,927,000 based on the information contained in the TC-AIMS II+ ACEIT Model and current funding projections. Funding requirements are as follows.

TC-AIMS II Remaining Costs ($K)

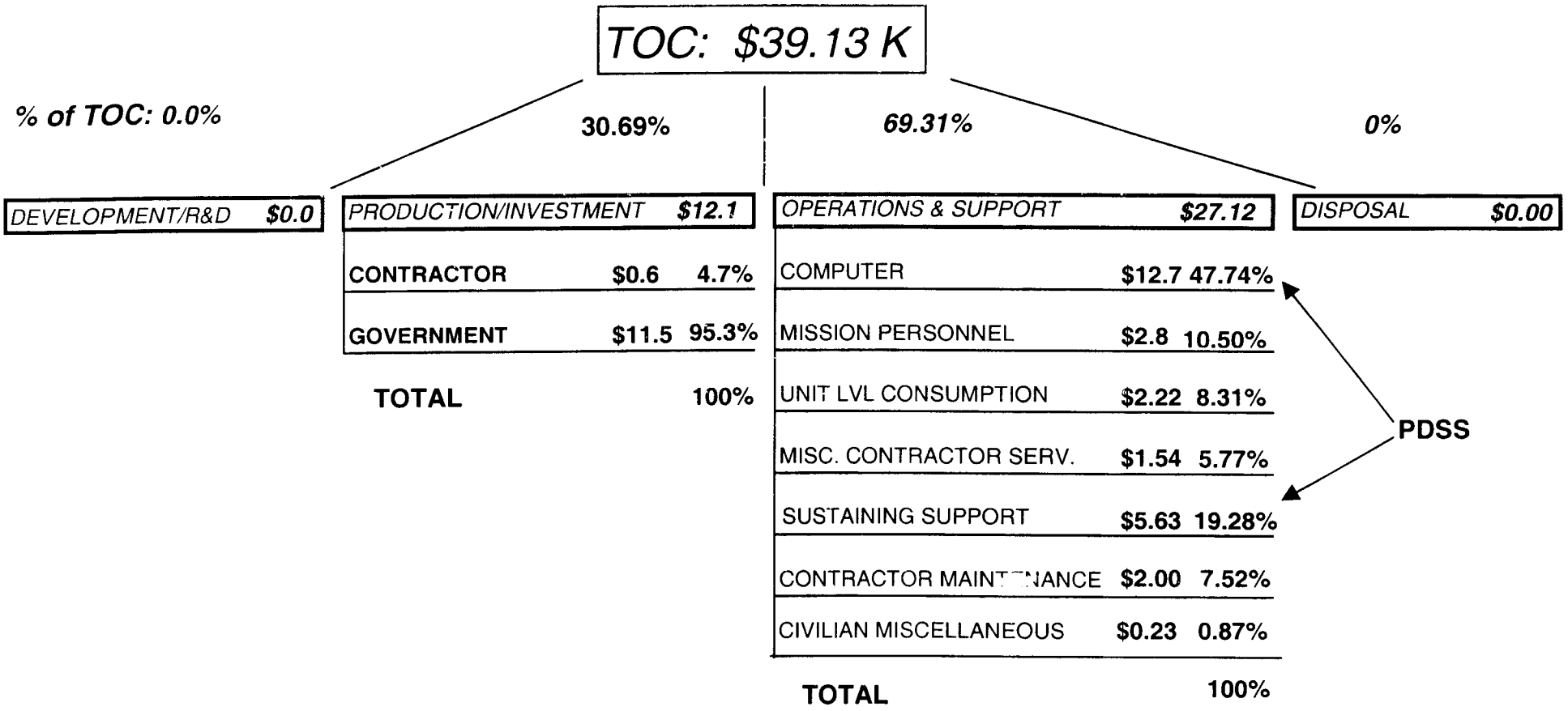
CATEGORY	ESTIMATE
RDT&E	$0
PMC	$21,235
O&MMC	$14,672
MPMC	$2,020
TOTAL	$37,927

2. Sunk Costs. All costs prior to FY00 are considered sunk costs for the purpose of this plan. Sunk costs associated with TC-AIMS II are $801,000 based on the information contained in the TC-AIMS II ACEIT Model. Sunk costs are as follows.

TC-AIMS II Sunk Costs ($K)

CATEGORY	ESTIMATE
RDT&E	$0
PMC	$0
O&MMC	$18
MPMC	$783
TOTAL	**$801**

TC-AIMS II TOC-R - Cost Elements Worksheet



SUNK DEVELOPMENT/R&D	$0.0	PRODUCTIVE/INVESTME	$0.02	OPERATIONS & SUPPORT	$0.78	DISPOSAL	$0.00

Future COSTS: DEVELOPMENT/R&D	$0.0	PRODUCTIVE/INVESTME	$12.01	OPERATIONS & SUPPORT	$25.90	DISPOSAL	$0.00

Program Life Cycle Cost Estimate

The cost estimates for this TOC-R Plan were derived from the ACEIT Model contained in the TC-AIMS II CARD.

Cost Drivers

The following are the TC-AIMS II cost drivers:

1. Hardware $10,005,000 25.6%
   - Cost of computer hardware (servers).
2. Software Life Cycle Support $11,434,000 29.2%
   - Cost of software maintenance for the fielded TC-AIMS.

Reduction Initiatives

The TC-AIMS II Program will take advantage of the bulk hardware purchases and warranties offered by PM Information Technology (IT). The hardware cost reduction gained by PM-IT is not shown in this TOC-R Plan.

TOC-R INITIATIVES WORKSHEET

NO.	INITIATIVE	SUMMARY
1	Hardware Quantity Reduction	The TC-AIMS II Program Office will study the feasibility of reducing the number of servers through use of the Marine Corps Enterprise System. Another option will be to "Web Enable" TC-AIMS II.
2	Software Life Cycle Support	The Program Office is currently studying the consolidation of TC-AIMS II Help Desks with other programs such as the Asset Tracking Logistics and Supply System (ATLASS II+). One major study will include the feasibility of one Help Desk to support all automated programs that support the logistics community.

1. Initiative 1 – Hardware Quantity Reduction

   a. Status. This is an ongoing initiative.

   b. Cost Drivers. The following cost drivers are associated with this initiative:

   - Research, Development, Test, and Evaluation (RDT&E). None.

- Investment (Software/Hardware Initiatives). The reduction and consolidation will result in a reduction of investment costs.

- Operations and Support (Software Maintenance). None.

c. Risk Mitigation. To be determined.

d. Method of Tracking Spending and Return on Investment. The method of tracking spending is under development and will be provided in future versions of the TOC-R Plan. The return on investment will be determined upon completion of a study on reducing the number of servers or another option to "Web Enable" TC-AIMS II.

e. Cost Avoidance Methodology. Cost avoidance is under continual development and will be provided in future revisions of the TOC-R Plan.

2. Initiative 2–Software Life Cycle Support

a. Status. This is an ongoing initiative.

b. Cost Drivers. The following cost drivers are associated with this initiative:

- RDT&E. None.

- Investment (Software/Hardware Initiatives). None.

- Operations and Support (Software Maintenance). The consolidation of Logistics Help Desks will result in a reduction of operations and support requirements.

c. Risk Mitigation. Meetings will be necessary between the MAGTF LOGAIS Program Office and other logistics program offices. A key participant will be the Deputy Program Manager, Logistics, PM IS.

d. Method of Tracking Spending and Return on Investment. The method of tracking spending is under development and will be provided in future versions of the TOC-R Plan. The return on investment will be determined upon completion of a study on consolidating the TC-AIMS II Help Desks with other programs.

e. Cost Avoidance Methodology. Cost avoidance is under continual development and will be provided in future revisions of the TOC-R Plan.